

Date: Monday, 11/21/2005 12:49:04 PM
 User: Linda Lacelle

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: BRACKET
Job Number	: 24923		
Estimate Number	: 10810		
P.O. Number	: N/A	Part Number	: D3177041
This Issue	: 11/21/2005 S.O. No. : N/A	Drawing Number	: D3177 REV B2
Prsht Rev.	: NC	Project Number	: SEE N/A
First Issue	: N/A Type : MACHINED PARTS	Drawing Revision	: B20
Previous Run	: N/A	Material	: N/A
Written By	: See comment below	Due Date	: 12/10/2005
Checked & Approved By	: See comment below	Qty:	3
Comment	: Est Rev:B 03.01.27, Added Step 12 KJ/RF	Um:	2 Each

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	M6061T6B1000X12000	6061-T6 Bar 1.0" x 12.0"
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Comment: Qty.: 2.0747 f(s)/Unit Total : 4.1494 f(s)
 Material: 6061-T6 (QQ-A-200/8) or (QQ-A-250/11) 1.00" thick(M6061T6B1.000x12.000 or M6061T6S1.000)
 Batch: M12873

2.0	BAND SAW	BAND SAW
-----	----------	----------



Comment: BAND SAW
 Cut blank: 47.40" x (12.000" +0.100/-0.000) B6 05.11.29 (Parts already cut)

3.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
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Comment: HAAS CNC VERTICAL MACHINING #1

1-Machine part as per Folio FA291 and Dwg D3177 B6 05.11.30
 M8 05/12/01

2-Deburr

4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
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Comment: INSPECT PARTS AS THEY COME OFF MACHINE M8 05/12/01
 B6 05.11.30

5.0	QC8	SECOND CHECK
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
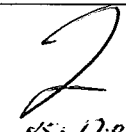


Comment: SECOND CHECK B6 05.11.30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: ☒ Date: 05/12/09

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
05.12.01	3	One D3177-041: The 0.970 thickness on dwg is 0.967 The two 0.261 holes are 0.268		PART IS OK. See attached Sheet for margin of safety.	 05.12.01	 05.12.01	 05.12.01	 05.12.01

NOTE: Date & initial all entries

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Drawing Name: BRACKET

Job Number: 24923

Part Number: D3177041

Job Number:



Seq. #:	Machine Or Operation:	Description :
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6.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
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Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

SAD / 3 dec 2005

7.0	D31775	Spacer
-----	--------	--------



Comment: Qty.: 4.0000 Each(s)/Unit Total: 8.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
-----	-------------	-------------	-------

4	D3177-5	Spacer	B20295
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FF 05.12.06

3

8.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
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Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Press D3177-5 Spacers as shown on Dwg D3177

FF 05.12.06

3

9.0	POWDER COATING	POWDER COATING
-----	----------------	----------------



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

FC 05 12 07

10.0	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION
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Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

/// 05/12/07

3

11.0	D26906	Lanyard
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Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
-----	-------------	-------------	-------

1	D2690-6	Lanyard	B19300
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SB 05/12/07

3

12.0	AN960JD10	Washer
------	-----------	--------



Comment: Qty.: 3.0000 Each(s)/Unit Total: 6.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
-----	-------------	-------------	-------

3	AN960JD10	Washer	H16046
---	-----------	--------	--------

SB 05/12/07

3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 11/21/2005 12:49:05 PM

User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BRACKET

Job Number: 24923

Part Number: D3177041

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

BLRS010

Pip Pin



Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 BLRS-010

Pip Pin

2 M14197

1 M11892

SB

05/12/07

A25
420
3

14.0

MS21042L3

Nut



Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 MS21042L3

Nut (or -3)

M17652

SB

05/12/07

3

15.0

MS27039111

Screw



Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 MS27039-1-11 Screw

M9662

SB

05/12/07

3

16.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1

Comment: SMALL & MEDIUM FAB RESOURCE 1
Assemble as per Dwg D3177

SB

05/12/07

3

17.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

205.12.08

18.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: 89

Pa 05/12/08

3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 11/21/2005 12:49:05 PM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BRACKET

Job Number: 24923

Part Number: D3177041

Job Number:



Seq. #:

Machine Or Operation:

Description :

19.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

545 05/12/09 (3)

(1) 05/12/09 (3)

Job Completion



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

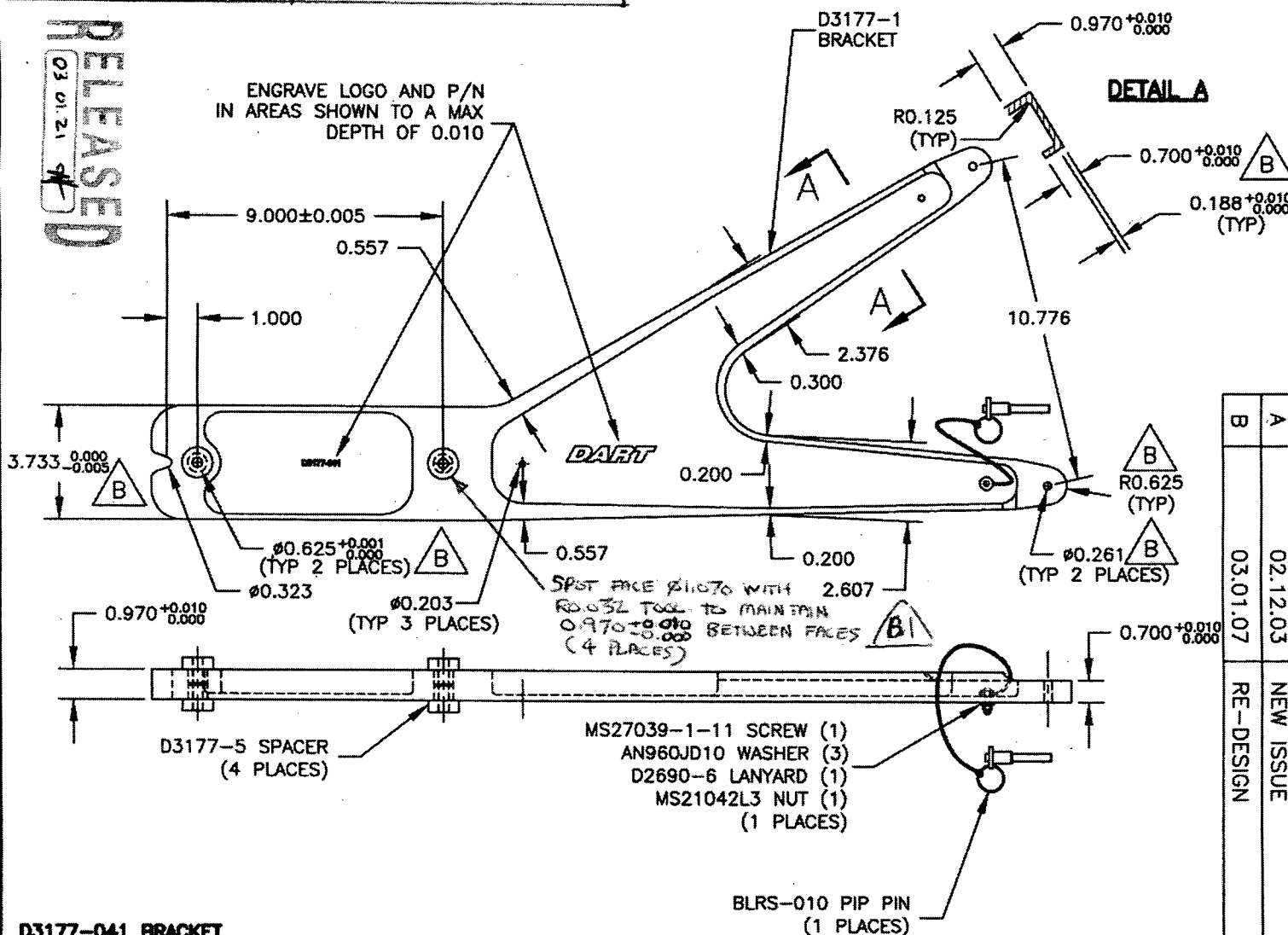
NOTE: Date & initial all entries

DART



DESIGN	DRAWN BY	DART AEROSPACE LTD	
03.01.07	CP	HAMKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. B
CP	CP	D3177	SHEET 1 OF 3
DATE	TITLE	SCALE	
03.01.07	BRACKET	1:5	
A	02.12.03	NEW ISSUE	
B	03.01.07	RE-DESIGN	

B1	03.02.25	CP	ADD SPST FACE
B2	03.11.24	CP	ADD D3177-7



D3177-041 BRACKET

- 1) MACHINE D3177-1 PER DART DWG "D3177-1.SLDPRT"
MATERIAL: 6061-T6 ALUMINUM BAR (QQ-A-250/11 OR QQ-A-200/8)
(REF DART SPEC. M6061T6S OR M6061T6B)
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 (PRIOR TO ASSEMBLY)
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3 (AFTER ASSEMBLY)
- 4) TOLERANCES ARE PER QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 24923
Description: Bracket		Part Number: 03177-1
Inspection Dwg: 03177-041 Rev: B		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

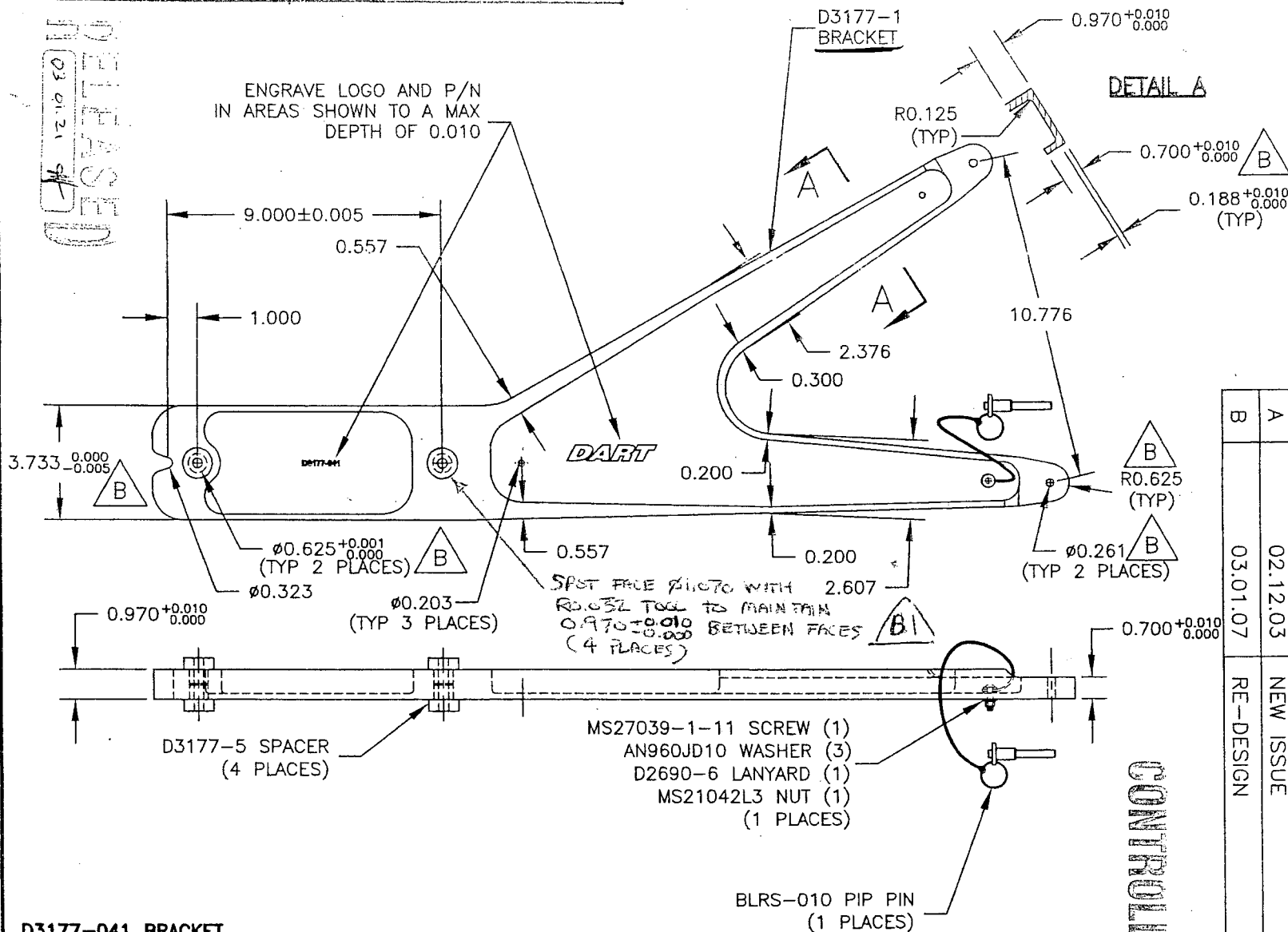
☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
9.000	± 0.005	8.997	✓			
1.000	± 0.010	.997	✓			
3.733	± 0.000 -0.005	3.731	✓			
φ.625	± 0.001 -0.000	.626	✓			
φ.203	± 0.005 -0.001	.207	✓			
.557	± 0.010	.551	✓			
.200	± 0.010	.196	✓			
2.607	± 0.010	2.606	✓			
φ.261	± 0.006 -0.001	.266	✓			
.300	± 0.010	.295	✓			
2.376	± 0.010	2.372	✓			
10.776	± 0.010	10.776	✓			
2.125	± 0.010	.125	✓			
.970	± 0.010 -0.000	.970	✓			
.700	"	.706	✓			
.188	"	.194	✓			

Measured by: 36	Audited by: En	Prototype Approval:
Date: 05.11.30	Date: 05/11/30	Date:

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/RF	

B1	03.02.25 (P#)	ADD SPOT FACE
B2	03.11.24 (P#)	ADD D3177-7



RELEASED

OF COPY ISSUED

DESIGN	W	DRAWN BY	W	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	W	APPROVED	W	
DATE	03.01.07	TITLE	BRACKET	REV. B
		DRAWING NO.	D3177	SHEET 1 OF 3
		SCALE	1:5	
		RE-DESIGN		
		NEW ISSUE		
		02.12.03		
		03.01.07		

D3177-041 BRACKET

- 1) MACHINE D3177-1 PER DART DWG "D3177-1.SLDPRT"
MATERIAL: 6061-T6 ALUMINUM BAR (QQ-A-250/11 OR QQ-A-200/8)
(REF DART SPEC. M6061T6S OR M6061T6B).
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 (PRIOR TO ASSEMBLY)
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3 (AFTER ASSEMBLY)
- 4) TOLERANCES ARE PER QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

Part	Section	Direction	(M)max (in lb)	Fcy/Ftu (psi)	I (in ⁴)	c (in)	(M)all (in lb)	MS
D3177-041	A-A	z	13791	34000	0.642	1.28	17053	0.24
D3177-041	A-A	x	1419	34000	0.056	0.67	2842	1.00
D3177-041	B-B	z	8497	34000	0.665	1.38	16384	0.93
D3177-041	B-B	x	1357	34000	0.043	0.72	2031	0.50
D3177-041	C-C	z	26775	34000	3.079	1.87	55982	1.09
*D3177-041	C-C	x	5880	34000	0.14	0.60	7933	0.35
*D3177-041	C-C	x	8820	38000	0.14	0.60	8867	0.01
					New values			
D3177-043	A-A	z	10494	34000	0.731	1.43	17380	0.66
D3177-043	A-A	x	1208	34000	0.044	0.72	2078	0.72
D3177-043	B-B	z	11343	34000	0.441	1.18	12761	0.12
D3177-043	B-B	x	1500	34000	0.042	0.71	2020	0.35

CRITICAL
SECTION

Table from Section 6.3 (page 6) of
SR-D130-701-1 Rev. A

UP 05.12.01